This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A computer-implemented method comprising:

a) accepting forwarding liveness status information of at least two different interfaces;

b) composing [[a]] an aggregated message including the forwarding liveness status information of the at least two different interfaces as data within the aggregated message; and

c) sending the aggregated message towards a neighbor node.

Claim 2 (currently amended): The computer-implemented method of claim 1 further comprising:

d) maintaining a first timer for tracking a send time interval, wherein the acts of composing [[a]] the aggregated message and sending the aggregated message are performed after expiration of the first timer; and

e) restarting the first timer after the aggregated message is sent.

Claim 3 (currently amended): The computer-implemented method of claim 2 wherein the aggregated message further includes a dead time interval, and wherein the send time interval is less than the dead time interval.

Claim 4 (currently amended): The computer-implemented method of claim 2 wherein the aggregated message further includes a dead time interval, and wherein the send time

interval is no more than one third of the dead time interval.

Claim 5 (previously presented): The computer-implemented method of claim 2 wherein the send time interval is less than one second.

Claim 6 (previously presented): The computer-implemented method of claim 2 wherein the send time interval is less than 100 msec.

Claim 7 (currently amended): The computer-implemented method of claim 1 wherein the aggregated message further includes a dead time interval.

Claim 8 (currently amended): The computer-implemented method of claim 1 wherein the act of sending the aggregated message includes providing the aggregated message in an Internet protocol packet.

Claim 9 (currently amended): The computer-implemented method of claim 8 wherein the aggregated message is sent towards the neighbor node by setting a destination address in the Internet protocol packet to a multicast address associated with routers that support aggregated interface forwarding liveness.

Claim 10 (previously presented): The computer-implemented method of claim 1 wherein the status information includes a forwarding liveness state selected from a group of forwarding liveness states consisting of (A) interface up,

(B) interface down, (C) interface monitor not reporting, and (D) forwarding engine restarting.

Claim 11 (currently amended): For use with a node, a computer-implemented method comprising:

a) receiving [[a]] an aggregated message including

i) forwarding liveness status information for a first set of at least two different interfaces as data within the aggregated message, and

ii) a time interval; and

b) updating neighbor node forwarding liveness status information using the aggregated message.

Claim 12 (previously presented): The computer-implemented method of claim 11 wherein the act of updating neighbor node liveness status information includes

i) setting a first timer to the time interval and starting the first timer,

ii) if the first timer expires, setting a status of each of the at least two different interfaces of the neighbor node to down; and

iii) if a further message, sourced from the neighbor node, and including

A) forwarding liveness status information, and

B) a new time interval,

is received then, resetting the first timer to the new time interval and restarting the first timer.

Claim 13 (previously presented): The computer-implemented method of claim 12 wherein each of the time interval and the new time interval is less than one second.

Claim 14 (previously presented): The computer-implemented method of claim 11 wherein the forwarding liveness status information is interface forwarding liveness status information.

Claim 15 (previously presented): The computer-implemented method of claim 11 wherein the status information includes a forwarding liveness state selected from a group of forwarding liveness states consisting of (A) interface up, (B) interface down, (C) interface monitor not reporting, and (D) forwarding engine restarting.

Claim 16 (previously presented): The computer-implemented method of claim 11 wherein the forwarding liveness status information includes at least one of (i) the integrity and correct operation of forwarding tables, (ii) the integrity and correct operation of switch fabric, (iii) the integrity and correct operation of a forwarding lookup engine, (iv) the integrity and correct operation of a traffic scheduler, (v) the integrity and correct operation of a traffic classifier, (vi) the integrity and correct operation of buffers in the data plane, (vii) the integrity and correct operation of packet segmentation modules, (viii) the integrity and correct operation of packet reassembly modules, (ix) the integrity and correct operation of packet re-sequencing modules, (x) whether or not a node is restarting, (xi) whether or not the forwarding plane is

congested, or (xii) the integrity and correct operation of fragmentation modules.

Claim 17 (previously presented): The computer-implemented method of claim 11 wherein the forwarding liveness status information includes at least one of (i) bit error rate at a link interface, and (ii) clock synchronization at a link interface.

Claim 18 (currently amended): A computer-implemented method for monitoring interface forwarding liveness, the method comprising:

a) determining, at a first node, forwarding liveness status information for at least two different interfaces;

b) sending, from the first node, [[a]] an aggregated message including the determined status information for the at least two different interfaces as data within the aggregated message;

c) receiving, at the second node, the aggregated message; and

d) updating, by the second node, first node forwarding liveness status information using the aggregated message.

Claim 19 (currently amended): The computer-implemented method of claim 18 wherein the aggregated message further includes a dead interval, and wherein the act of updating first node forwarding liveness status information includes

i) setting a timer to the dead interval;

ii) starting the timer;

iii) determining whether or not a further message including forwarding liveness status information is received from the first node before the expiration of the timer; and

iv) if it is determined that a further message including forwarding liveness status information is not received from the first node by the second node before the expiration of the timer, then informing the second node that the at least two different inferfaces of the first node are down.

Claim 20 (previously presented): The computer-implemented method of claim 18 wherein the status information includes a forwarding liveness state selected from a group of forwarding liveness states consisting of (A) interface up, (B) interface down, (C) interface monitor not reporting, and (D) forwarding engine restarting.

Claim 21 (previously presented): The computer-implemented method of claim 18 wherein the forwarding liveness status information includes at least one of (i) the integrity and correct operation of forwarding tables, (ii) the integrity and correct operation of switch fabric, (iii) the integrity and correct operation of a forwarding lookup engine, (iv) the integrity and correct operation of a traffic scheduler, (v) the integrity and correct operation of a traffic classifier, (vi) the integrity and correct operation of buffers in the data plane, (vii) the integrity and correct operation of packet segmentation modules, (viii) the integrity and correct operation of packet reassembly modules, (ix) the integrity and correct operation of packet re-sequencing modules, (x) whether or not a node is

restarting, (xi) whether or not the forwarding plane is congested, or (xii) the integrity and correct operation of fragmentation modules.

Claim 22 (previously presented): The computer-implemented method of claim 18 wherein the forwarding liveness status information includes at least one of (i) bit error rate at a link interface, and (ii) clock synchronization at a link interface.

Claims 23-28 (canceled)

Claim 29 (currently amended): For use with a node, [[~~elements~~]] apparatus comprising:

a) one or more processors;

b) at least one input device; and

c) one or more storage devices storing processor-executable instructions which, when executed by one or more processors, perform a method of:

[[~~a~~]] i) [[~~means for~~]] accepting forwarding liveness status information of at least two different interfaces;

[[~~b~~]] ii) [[~~means for~~]] composing [[~~a~~]] an aggregated message including the forwarding liveness status information of the at least two different interfaces as data within the aggregated message; and

[[~~c~~]] iii) [[~~means for~~]] sending the aggregated message towards a neighbor node.

Claim 30 (currently amended): The [[~~elements~~]] apparatus of claim 29 further comprising:

[[~~d~~]] iv) [[~~means for~~]] maintaining a first timer for tracking a send time interval, wherein the [[~~means for~~]] act of composing [[~~a~~]] the aggregated message and sending the aggregated message compose and send the aggregated message after expiration of the first timer; and

[[~~e~~]] v) [[~~means for~~]] restarting the first timer after the aggregated message is sent.

Claim 31 (currently amended): The [[~~elements~~]] apparatus of claim 30 wherein the aggregated message further includes a dead time interval, and wherein the send time interval is less than the dead time interval.

Claim 32 (currently amended): The [[~~elements~~]] apparatus of claim 30 wherein the aggregated message further includes a dead time interval, and wherein the send time interval is no more than one third of the dead time interval.

Claim 33 (currently amended): The [[~~elements~~]] apparatus of claim 30 wherein the send time interval is less than one second.

Claim 34 (currently amended): The [[~~elements~~]] apparatus of claim 30 wherein the send time interval is less than 100 msec.

Claim 35 (currently amended): The [[~~elements~~]] apparatus of claim 29 wherein the aggregated message further includes a dead time interval.

Claim 36 (currently amended): The [[~~elements~~]] apparatus of claim 29 wherein the [[~~means for~~]] act of sending the aggregated message includes [[~~include means for~~]] providing the aggregated message in an Internet protocol packet.

Claim 37 (currently amended): The [[~~elements~~]] apparatus of claim 36 wherein the [[~~means for~~]] act of sending the aggregated message includes [[~~include means for~~]] setting a destination address in the Internet protocol packet to a multicast address associated with routers that support interface forwarding liveness.

Claim 38 (currently amended): The [[~~elements~~]] apparatus of claim 29 wherein the status information includes a forwarding liveness state selected from a group of forwarding liveness states consisting of (A) interface up, (B) interface down, (C) interface monitor not reporting, and (D) forwarding engine restarting.

Claim 39 (currently amended): For use with a node, [[~~elements~~]] apparatus comprising:

a) one or more processors;

b) at least one input device; and

c) one or more storage devices storing processor-executable instructions which, when executed by one or more processors, perform a method of:

[[~~a~~]] i) [[~~means for~~]] receiving [[~~a~~]] an aggregated message including

[[~~i~~]] A) forwarding liveness status information for a first set of at least two different interfaces as data within the aggregated message, and

[[~~ii~~]] B) a time interval; and

[[~~e~~]] ii) [[~~means for~~]] updating neighbor node forwarding liveness status information using the aggregated message.

Claim 40 (currently amended): The [[~~elements~~]] apparatus of claim 39 wherein the [[~~means for~~]] act of updating neighbor node liveness status information [[~~include~~]] includes

[[~~i~~]] A) [[~~means for~~]] setting a first timer to the time interval and starting the first timer,

[[~~ii~~]] B) [[~~means for~~]] setting a status of each of the at least two different interfaces of the neighbor node to down if the first timer expires; and

[[~~iii~~]] C) [[~~means,~~]] if a further message, sourced from the neighbor node, and including

[[A]] 1) forwarding liveness status information, and

[[B]] 2) a new time interval,

is received, [[~~for~~]] resetting the first timer to the new time interval and restarting the first timer.

Claim 41 (currently amended): The [[~~elements~~]] apparatus of claim 39 wherein each of the time interval and the new time interval is less than one second.

Claim 42 (currently amended): The [[~~elements~~]] apparatus of claim 39 wherein the forwarding liveness status

information is interface forwarding liveness status information.

Claim 43 (currently amended): The [[~~elements~~]] apparatus of claim 39 wherein the status information includes a forwarding liveness state selected from a group of forwarding liveness states consisting of (A) interface up, (B) interface down, (C) interface monitor not reporting, and (D) forwarding engine restarting.

Claim 44 (currently amended): The [[~~elements~~]] apparatus of claim 39 wherein the forwarding liveness status information includes at least one of (i) the integrity and correct operation of forwarding tables, (ii) the integrity and correct operation of switch fabric, (iii) the integrity and correct operation of a forwarding lookup engine, (iv) the integrity and correct operation of a traffic scheduler, (v) the integrity and correct operation of a traffic classifier, (vi) the integrity and correct operation of buffers in the data plane, (vii) the integrity and correct operation of packet segmentation modules, (viii) the integrity and correct operation of packet reassembly modules, (ix) the integrity and correct operation of packet re-sequencing modules, (x) whether or not a node is restarting, (xi) whether or not the forwarding plane is congested, or (xii) the integrity and correct operation of fragmentation modules.

Claim 45 (currently amended): The [[~~elements~~]] apparatus of claim 39 wherein the forwarding liveness status information includes at least one of (i) bit error rate at

a link interface, and (ii) clock synchronization at a link interface.

Claim 46 (currently amended): A system comprising:

a) a first node including

i) one or more processors;

ii) at least one input device; and

iii) one or more storage devices storing processor-executable instructions which, when executed by one or more processors, perform a method of:

[[i]] A) [[~~means for~~]] determining, at a first node, forwarding liveness status information for at least two different interfaces, and

[[~~ii~~]] B) [[~~means for~~]] sending [[~~a~~]] an aggregated message including the determined status information for the at least two different interfaces as data within the aggregated message; and

b) a second node including

i) one or more processors;

ii) at least one input device; and

iii) one or more storage devices storing processor-executable instructions which, when executed by one or more processors, perform a method of:

[[~~i~~]] A) [[~~means for~~]] receiving the aggregated message, and

[[~~ii~~]] B) [[~~means for~~]] updating first node forwarding liveness status information using the aggregated message.

Claim 47 (currently amended): The system of claim 46 wherein the aggregated message further includes a dead interval, and wherein the [[~~means for~~]] act of updating first node forwarding liveness status information [[~~include~~]] includes

i) [[~~means for~~]] setting a timer to the dead interval;

ii) [[~~means for~~]] starting the timer;

iii) [[~~means for~~]] determining whether or not a further message including forwarding liveness status information is received from the first node before the expiration of the timer; and

iv) [[~~means for~~]] informing the second node that the at least two different interfaces of the first node are down if it is determined that a further message including forwarding liveness status information is not received from the first node by the second node before the expiration of the timer.

Claim 48 (currently amended): The [[~~network~~]] system of claim 46 wherein the status information includes a forwarding liveness state selected from a group of forwarding liveness states consisting of (A) interface up, (B) interface down, (C) interface monitor not reporting, and (D) forwarding engine restarting.

Claim 49 (previously presented): The system of claim 46 wherein the forwarding liveness status information includes at least one of (i) the integrity and correct operation of forwarding tables, (ii) the integrity and correct operation of switch fabric, (iii) the integrity and correct operation

of a forwarding lookup engine, (iv) the integrity and correct operation of a traffic scheduler, (v) the integrity and correct operation of a traffic classifier, (vi) the integrity and correct operation of buffers in the data plane, (vii) the integrity and correct operation of packet segmentation modules, (viii) the integrity and correct operation of packet reassembly modules, (ix) the integrity and correct operation of packet re-sequencing modules, (x) whether or not a node is restarting, (xi) whether or not the forwarding plane is congested, or (xii) the integrity and correct operation of fragmentation modules.

Claim 50 (original): The system of claim 46 wherein the forwarding liveness status information includes at least one of (i) bit error rate at a link interface, and (ii) clock synchronization at a link interface.

Claim 51 (new): The computer-implemented method of claim 1 wherein the forwarding liveness status information of at least one of the at least two different interfaces included in the aggregated message includes a forwarding liveness state set to interface monitor not reporting.

Claim 52 (new): The computer-implemented method of claim 1 wherein the forwarding liveness status information of at least one of the at least two different interfaces included in the aggregated message includes a forwarding liveness state set to forwarding engine restarting.

Claim 53 (new): The computer-implemented method of claim 29 wherein the forwarding liveness status information of at least one of the at least two different interfaces included

in the first set of at least two different interfaces included within the aggregated message includes a forwarding liveness state set to interface monitor not reporting.

Claim 54 (new): The computer-implemented method of claim 29 wherein the forwarding liveness status information of at least one of the at least two different interfaces included in the first set of at least two different interfaces included within the aggregated message includes a forwarding liveness state set to forwarding engine restarting.